

09/720790

523 Rec'd PCT TO PATENT 29 DEC 2000
0459-0522P

IN THE U.S. PATENT AND TRADEMARK OFFICE

APPLICANT: DIDRIKSEN, Jan
INTL APPLN. NO.: PCT/DK99/00369
FILED: December 29, 2000
FOR: A METHOD AND A SYSTEM FOR PROCESSING POSTAL ITEMS
GROUP:
EXAMINER:

LETTER

December 29, 2000

BOX PATENT APPLICATION
Assistant Commissioner for Patents
Washington, D C. 20231

Sir:

The PTO is requested to use the amended sheets/claims attached hereto (which correspond to Article 34 amendments or to claims attached to the International Preliminary Examination Report) during prosecution of the above-identified national phase PCT application.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By

Joe McKinney Muncy
#32,334

KM/cqc

Attachment

P.O. Box 747
Falls Church, VA 22040-0747
(703) 205-8000

INTERNET COOPERATION TREATY PCT

PLOUGMANN
VINGTOFT
& PARTNERS

23 OCT. 2000

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 20995 PC 1	<div style="text-align: center;">FOR FURTHER ACTION</div> <div style="text-align: right; font-size: small;">See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)</div>	
International application No. PCT/DK99/00369	International filing date (day/month/year) 29/06/1999	Priority date (day/month/year) 29/06/1998
International Patent Classification (IPC) or national classification and IPC B07C3/00		
Applicant CRISPLANT A/S et al.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 12 sheets, including this cover sheet.

☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 16 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☒ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☒ Certain defects in the international application
- VIII ☒ Certain observations on the international application

Date of submission of the demand 28/01/2000	Date of completion of this report 29/06/2000
Name and mailing address of the international preliminary examining authority: European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx 523656 epmu d Fax +49 89 2399 - 4465	Authorized officer Stenger, M Telephone No +49 89 2399 7353



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK99/00369

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

Description, pages:

1-39 as originally filed

Claims, No.:

1-75 with telefax of 13/10/2000

Drawings, sheets:

1/11-11/11 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

3. ☒ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

see separate sheet

4. Additional observations, if necessary:

III. Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non-obvious), or to be industrially applicable have not been examined in respect of:

- ☐ the entire international application.
☒ claims Nos. 53, 55, 57-68.

because:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK99/00369

- ☐ the said international application, or the said claims Nos. relate to the following subject matter which does not require an international preliminary examination (*specify*):
- ☒ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):
- see separate sheet**
- ☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.
- ☐ no international search report has been established for the said claims Nos. .

IV. Lack of unity of invention

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.
- ☒ paid additional fees.
- ☐ paid additional fees under protest.
- ☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.
- ☒ not complied with for the following reasons:

see separate sheet

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos. .

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/DK99/00369

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-52, 54, 56, 69-75
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-52, 54, 56, 69-72
	No:	Claims	73-75
Industrial applicability (IA)	Yes:	Claims	1-52, 54, 56, 69-75
	No:	Claims	

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

VIII. Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

Section I:

The amendments concerning claims 73-75 brought forward by the applicant can not be allowed (Article 34(2)b) PCT. The applicant cites, in his letter from the 30.08.2000, p.26, I.7-9 and p.8, I.24-27 as giving a basis for the amendments. On p.26, I.7-9, of the application as originally filed, it is stated, that a table of identification codes and corresponding address identification codes is created and stored at the first computer system. Nothing is said about generally **deriving** address data from the identification code.

P.8, I.24-27 of the original application could only serve as a basis for amending the claims such, that the identification code mentioned in claims 1 and 11 (and in the corresponding apparatus claims 52 and 54) may comprise a radio frequency tag; this, however, is the subject-matter of claims 3 and 16.

Section III:

Claims 53 and 55 can not be examined, because the scope of these claims is not clear. "Means for carrying out some or all of the method steps of any of the claims..." leaves the reader in doubt as to which are the features actually disclosed in these two claims.

It can not be understood, what subject-matter is meant in Claims 66, 67 and 68. On the one hand, it appears, that changes of the sequence of steps a, b and c are meant; on the other hand, every possible sequence of a, b and c is already comprised in claim 65. Since the examiner can not discern, what new subject-matter should be comprised in claims 66, 67 and 68, they are not examined.

In claims 57 and 58, the steps (a) and (b) of identifying the item of claim 56 are claimed to be of the same type ("...step (a) **and** step (b) comprises the step of..."). This is in contradiction to claim 56, where it is claimed, that the item identification means are of different types. Since it is not clear, what subject-matter is meant, claims 57, 58 and all the claims depending on them(claims 59-68) have not been examined.

Section IV:

The application does not meet the requirements of Rule 13.1 PCT (unity) for the following reasons:

The application comprises 3 inventions each concerning a method/apparatus claim pair, namely the subject-matter according to independent claims 1/52, 11/54, and 73/75. Furthermore, 3 other inventions (method claim 56, apparatus claim 69 and method claim 70) are also disclosed.

Further examination fees have been paid by the applicant. Therefore, the whole application (6 inventions) has been the subject of an international preliminary examination, with the exception of the claims mentioned in section III.

Section V:

Many clarity objections regarding the claims are raised by the examiner (see section VIII). The following analysis of the 6 inventions in view of novelty and inventive step has been carried out as far as the claims could be understood.

Invention 1 (Claims 1/52):

EP-A1-0613731 discloses a method and an apparatus for routing mail (c.1, l.10).

- (a) The mail items are delivered to a receiving part (input element 4) of a first item processing installation (input system 1), which is adapted to collect and process items from a plurality of departure locations (c.5, l.10-12; see fig.2). A control system 6, 8, 11, 13, 14, 15, 16 is comprised in this installation.
- (b) The items are sent to a scanning element 5, where a digitalized replica of the address information on the items is captured (c.5, l.27-29).
- (c,d) The replica is then processed by converters 8, which are part of the control system, to derive first address data (control code). The converters are connected to the rest of the system via the LAN 13.
- (dii) By the control system, it is determined whether the control code derived is usable, i.e., sufficient in order to automatically sort and distribute the item in question (c.6, l.28-30 and l.36-52) at the routing element 10 of the first item processing installation 1. If this is the case, the method goes on with step (e); if not, with step (f).
- (e) The control code is associated to the item (c.8, l.28-32) and transmitted to the routing element 10 (c.6, l.48-50). The method then continues with step (g). The control code may also be printed on the item (c.8, l.1-10).
- (f) The items are sent to coding stations, where the first address signal (the replica) is processed manually and a third address data is derived (since the third address

data is **the** control code and is obtained manually, it is implicitly clear that it is sufficient in order to automatically sort and distribute the item and that it is stored as the first address data). The method then proceeds with step (e).

- (g,h) Each item is sent to the routing element 10, where it is routed, via a postal transmission system 2 consisting of containers, lorries and trains etc. (c.7, l.35- 37), to the correct output system 3. This routing is controlled by means of the control code transmitted to the routing element 10 via the LAN 13.

In FR-A-2646364, a system and a method with all these features are disclosed also (see p.4, l.26, to p.9, l.4).

The subject-matter of claim 1 of the present application differs therefrom in that prior to step (e) as described above, a comparison of the first address data with second address data previously stored in a database comprised in or connected to the first computer system is carried out. It further differs in that, depending on the outcome of this comparison, the control code (unique address identification code) is definitely associated to the item or an error code is associated to the item or the item is further processed.

Claim 52 differs from the disclosure in EP-A1-0613731 in that a database containing second address data is comprised in or connected to the control system, in that processor means for comparing the first address data to second address data are comprised in the system, and in that means for associating an error code to an item are present.

The objective technical problem has to be regarded as how to validate the first address data obtained in an efficient way.

In EP-A1-0613731, a verification element is used to check the completeness and validity of the control code (c.7, l.48-54) after it has been determined, whether the control code is sufficient to automatically sort and distribute the items. This element, however, checks the validity of the control code **only after** the mail items have been sent to the correct output station (step h).

EP-A2-0424728 uses a database 100/102 and compares the address data obtained with the content of this database. However, it is not determined before that comparison, whether the address data to be compared is sufficient to automatically sort and distribute the item in question, nor are processor means

present to do that. Thereby, a time-consuming data base search has to be carried out in any case, even if it does not make sense due to insufficient first address data.

In none of the systems disclosed in EP-A1-0613731 and EP-A2-0424728, two processor means (one for determining whether the first address data is sufficient, and one for comparing the first address data to second address data stored in a database) are present.

Since even by combining the teachings of EP-A1-0613731 and EP-A2-0424728, the person skilled in the art would not arrive at the subject-matter of claims 1 and 52, these claims have to be regarded as involving an inventive step according to Article 33(3) PCT.

Invention 2 (Claims 11/54):

US-A-4832204 discloses a method and a system for handling and sorting packages. The packages are sent by a consignor to a consignee via mail centres (origin terminal, sortation hub and destination terminal, see fig.1).

- (a) The packages are provided with an identification code in a standard format by the consignor (c.5, l.12-16).
- (b) The items are delivered to an original terminal 22 or a sortation hub 24, which are adapted to collect and process items from a plurality of departure locations. A control system is comprised in these installations (c.5, l.61-68).
- (c) The identification code (barcode label 30) is passed together with a destination code (address label 40) from the consignor to an original terminal 22 or a sortation hub 24.
- (d) The destination code is keyed in, implicitly in storage means, comprised in or connected to the control system of the original terminal 22 or the sortation hub 24 (c.5, l.26-27). It is implicitly clear, that this destination code is stored in association with the identification code, which is used as a control code (c.6, l.12-16).
- (e) The identification code is captured by an overhead scanner 60 (c.5, l.64).
- (f) The identification code is used as control code for sorting the item (c.6, l.12-16).
- (g) The packages are conveyed along a conveying system 43 comprising a plurality of discharge stations 50. The discharging of the packages is controlled by the RMP and the SCS (c.6, l.12-21).

- (h) The packages are discharged automatically at a discharge station which is selected by a computer system according to the identification code read by the scanner 60 (c.5, I.61-c.6, I.23).

The subject-matter of claim 11 of the present application differs therefrom, in that the identification code provided at the departure location corresponds to a unique address identification code stored at a storage means comprised in a computer system comprised in or connected to a first control system in a first item processing installation. Claim 54 of the present application differs from US-A-4832204 in that means for doing this are comprised in the system claimed. Thereby, the address label need not be read at the mail centre/first item processing installation.

The objective technical problem has to be regarded as how to reduce the processing time of the items at the mail centre. In none of the available prior art documents a hint is given, that the step of reading the address label at the mail centre may be omitted, if the identification code affixed **at the departure location, which is not a mail centre**, corresponds to address data.

Thus, the subject-matter of claims 11 and 54 have to be regarded as involving an inventive step according to Article 33(3) PCT.

Invention 3 (Claim 56):

EP-A1-0613731 discloses a method for processing postal items.

- (a) The items are identified by means of a first item identification means 5 connected to the control system of the output system (c.8, I.20-34).
(c) The address data on the items is determined and processed (c.9, I.3-13).

The subject-matter of claim 56 of the present application differs therefrom in that step (a) is repeated in step (b) by second item identification means which is of a type different from the type of the first item identification means.

The objective technical problem to be solved is then how to increase the reliability of the item identification process by reducing the failure rate.

In none of the available prior art documents, it is suggested to identify postal items subsequently by two item identification means of different types. Although such a

redundancy approach to increase the reliability of a process is common practice in safety technology, it is not considered to be part of the common knowledge in the field of processing postal items. Therefore, claim 56 is considered to be new and inventive.

Invention 4 (Claim 69):

In claim 69, a system for automatically processing a plurality of postal items comprising parcels, the system comprising a postal item check-in system, a postal item singulating system and a system according to claim 52 and/or a system according to claim 54 is claimed. Thereby, all the features the(se) system(s) are comprised in claim 69. Since the subject-matter of both claims 52 and 54 is new and inventive, claim 69 also has to be regarded as being new and inventive according to Article 33 PCT.

Invention 5 (Claim 70):

US-A-4832204 discloses a method for sorting packages 38 comprising

- a) conveying the packages along a conveyor 49 with a plurality of discharge stations 50 and a control system 64,
- b) discharging each package at a discharge station selected by the control system according to the destination of the packages (c4, I.9-39) and
- c) collecting a plurality of items at a discharge station by means of truck loading conveyors 56.

However, no hint is given neither in this document, nor in the other available prior art documents, that a plurality of parcels collected at a discharge station is rearranged in accordance to a predetermined delivery sequence. This second operation increases the efficiency of the subsequent delivery.

Thus, the subject-matter of claim 70 of the present application has to be considered as new and inventive according to Article 33 PCT.

Invention 6 (Claims 73/75):

EP-A1-0613731 discloses a method and a system for processing postal items, comprising the steps of and means for providing each item with an identification code (c.5, I.35-36), passing the identification code to a control system and

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/DK99/00369

processing the postal items in accordance with the identification code
The subject-matter of claims 73 and 75 of the present application differs therefrom, in that the identification code is passed to the control system by means of radio frequency transmission. The advantage of that difference is, that the identification code of an item can be obtained, even if the item is not properly positioned on e.g., a conveyor, which would be necessary in the case of an identification code in the form of an optically readable barcode.

Since DE-A1-19616130 gives the hint to use radio transmission to obtain exactly this advantage (c.1, l.39-41). The data to be transmitted contains address data and other information about the item (c.4, l.24-43), by which it is possible to **identify** (c.4, l.42) the item.

Since the skilled man would arrive at the subject-matter of claims 73 and 75 by combining the teachings of EP-A1- 0613731 with the teaching of DE-A1-19616130, the subject-matter of these claims can not be considered as involving an inventive step according to Article 33(3) PCT. The same holds for claim 74, since the additional feature of sorting items by means of a sorting conveyor is also disclosed in EP-A1- 0613731.

Dependent claims:

The dependent claims, insofar as they could be examined (see section III), are special embodiments of the inventions as characterised in independent claims 1, 11, 52, 54 and 70 and are therefore also new and inventive according to Article 33 PCT.

Industrial applicability:

The industrial applicability of the various aspects of the application is obvious.

Section VII:

- 1.) The amended independent claims 1, 52, 56, 73 and 75 are not correctly limited against EP-A1-0613731 as required by Rule 6.3(b). The amended independent claims 11, 54 and 70 are not correctly limited against US-A-4832204.
- 2.) The relevant prior art known from EP-A1-0613731, FR-A-2646364, US-A-4832204, EP-A2-0425890 and DE-A1-19616130 is not cited in the description

(Rule 5.1(a)(ii) PCT).

Section VIII:

- 1.) In claims 57 and 58, the word "and" contained in the term "and/or" is in contradiction to independent claim 56, which they depend on (Article 6 PCT).
- 2.) In claim 4, the purpose of the term "optionally" remains unclear, since it is not reasonable to capture an image of an address block, that is only optionally provided on the items (Article 6 PCT).
- 3.) Claim 24 refers to a step (j) in claims 1 and 11, which does not exist (Article 6 PCT).
- 4.) In claims 1 and 11, the steps are identified by characters (a) to (h). In claims 52 and 54, the corresponding device features are not identified in that manner., Claims 56 and 70 contain such characters, claims 69 does not. The features of claims 73 and 75 are numbered (i), (ii)... These inconsistencies represent a violation of Article 6 PCT (Clarity).
- 5.) The expression "large number of persons" in claim 28 contains the relative term "large" and thus, does not comply with the requirements of Guidelines III-4.5 PCT.
- 6.) On page 10 of the description, lines 30-32, it is stated that "the content of which US provisional patent application hereby included in the present application". However, no number is provided, and moreover, as such patent applications are not in the public domain, the content of this application cannot be ascertained (Article 6 PCT).
- 7.) No support for the subject-matter of claim 72 can be found in the description (Article 6, Guidelines III-4.3 PCT).

International Patent Application No. PCT/DK99/00369

Publication No. WO 00/00300

Crisplant a/s

A method and a system for processing postal items

5 Our ref: 20995 PC 1

NEW CLAIMS, 13 OCTOBER 2000

10 1. A method for processing postal items, each item being sent from a departure location to a destination location, the method comprising:

(a) delivering items to an item receiving part of a first item processing installation, the first installation being adapted to collect and process items from a plurality of departure

15 locations and comprising one or more first control systems for controlling the processing of items,

(b) conveying each item along a first system for capturing a first address signal from address identification means provided on the items,

20

(c) processing the first address signal to derive first address data,

(d) passing the first address data to a first computer system comprised in the at least one first control system,

25

(d_ii) processing the first address data of an item in order to determine whether or not it is sufficient in order to automatically sort and distribute the item in question, and

- if the first address data is sufficient: going to step (e),
- if the first address data is insufficient: going to step (f),

30

(e) comparing the first address data to second address data previously stored in a first database comprised in or connected to the first computer system, and

- if the first address data of an item is substantially identical to an entry of second address data in the first database: associating a unique address
- 35 identification code the item in question and going to step (g),

- if the first address data of an item is not identical or nearly identical to any entry of second address data in the first database: associating an error code to the item in question and going to step (g) or transporting the item in question to further manual or automatic processing thereof,
- 5 (f) conveying the items along a second system for capturing a second address signal from the address identification means or for further processing the first address signal, and
- processing the first or the second address signal to derive third address data,
- 10
- ensuring by automatic or manual means that the third address data is sufficient in order to automatically sort and distribute the item in question,
 - storing the third address data as the first address data and going to step (e),
- 15 (g) conveying each item along a sorting conveyor adapted to sort items, the sorting conveyor comprising a plurality of discharge stations and means for unloading items being conveyed along the sorting conveyor, discharging of items being controlled by the first computer system,
- 20 (h) discharging each item at a discharge station, the discharge station being automatically selected by the first computer system according to the unique address identification code or according to the error code,
- 25 the method being applicable postal items of various sizes.
2. A method according to claim 1, wherein step (b) comprises optically capturing a first image of a printed or written address block provided on the items.
- 30 3. A method according to claim 1, wherein step (b) comprises capturing first address signal by means of a radio signal received from radio transmission means comprised in the address identification means.
4. A method according to claim 2 or 3, wherein step (f) comprises optically capturing a
- 35 second image of a printed or written address block optionally provided on the items.

5. A method according to any of claims 1-4, wherein the first address signal is being captured while the item in question is being conveyed along the sorting conveyor.
- 5 6. A method according to any of claims 1-5, wherein the second address signal is being captured while the item in question is being conveyed along the sorting conveyor.
7. A method according to any of claims 4-6, wherein the step of further processing the first image at step (f) is being carried out by means of a video coding system.
- 10 8. A method according to any of claims 1-7, wherein the second address signal is being captured by a human, the information provided by the second address signal being passed to the first computer system by manually entering the information.
- 15 9. A method according to any of claims 1-8, wherein the further processing of the first address signal at step (f) is being carried out by a human, the information thereby derived from the first address signal being passed to the first computer system by manually entering the information.
- 20 10. A method according to any of claims 1-9, wherein step (e) further comprises performing spelling checking at least part of the first address data.
11. A method for processing postal items, each item being sent from a departure location to a destination location via a mail centre, the departure location being a location of a type different from a mail centre and being located at a remote location from the mail centre, the method comprising:
- 25 (a) providing an item with an identification code in a standard format at the departure location, the identification code corresponding to a unique address identification code stored at a storage means comprised in a computer system comprised in or connected to a first control system comprised in a first item processing installation,
- 30 (b) delivering items to an item receiving part of the first installation, the first installation being adapted to collect and process items from a plurality of departure locations and comprising one or more first control systems for controlling the processing of items,
- 35

- (c) passing the identification code together with a destination code of the item from the departure location to at least one of the one or more first control systems, the destination code identifying the address of the destination location of the item,
- 5 (d) storing the destination code in the storage means and processing the destination code so as to associate the destination code to the corresponding unique address identification code,
- 10 (e) capturing the identification code at the item processing installation by means of a code capturing device adapted to pass the identification code to at least one of the one or more first control systems,
- (f) processing the identification code so as to associate the corresponding unique address
- 15 identification code to the item,
- (g) conveying each item along a sorting conveyor adapted to sort items, the sorting conveyor comprising a plurality of discharge stations and means for unloading items being conveyed along the sorting conveyor, discharging of items being controlled by a first
- 20 computer system comprised in the one or more first control systems,
- (h) discharging each item at a discharge station, the discharge station being automatically selected by the first computer system according to the identification code associated to the item in question.
- 25 12. A method according to claim 11, wherein the identification code is optically readable, and wherein step (c) comprises scanning the identification code by means of a code scanning device.
- 30 13. A method according to claim 11 or 12, further comprising, prior to or during step (e), the step of determining whether the identification code is present on the item and in such case whether it is readable by the code scanning device.
14. A method according to any of claims 11-13, wherein a further identification code is
- 35 provided in or on all or some of the items for further identifying the item(s).

15. A method according to claim 14, wherein the identification code and the further identification code at least comprise a bar code.
- 5 16. A method according to claim 14 or 15, wherein the identification code and the further identification code at least comprise a radio frequency tag.
17. A method according to any of claims 11-16, further comprising the step of processing the item in question by a method according to any of claims 1-10 in case step (e) or (f) of
10 claim 11 fails or in case the identification code is not present or un-captureable, the first item processing installation of claims 1-10 being the first item processing installation of any of claims 11-16.
18. A method according to any of claims 11-17, wherein the identification code is being
15 captured while the item in question is being conveyed along the sorting conveyor.
19. A method according to any of claims 1-18, further comprising the step of weighing at least some of the items being processed at the first installation.
- 20 20. A method according to any of claims 1-10 or any of claims 11-19, further comprising the step of automatically measuring or scanning the volume of at least some of the items being processed at the first installation, the measuring or scanning being performed by means of a volume scanning system.
- 25 21. A method according to claim 20, wherein the measuring or scanning is performed on the sorting conveyor while the item in question is being conveyed along the sorting conveyor.
22. A method according to claim 19, further comprising the step of passing weight
30 information representing the weight of the item in question to a computer system comprised in the at least one first control system.
23. A method according to claim 20 or 21, further comprising the step of passing volume
35 information representing the volume of the item in question to a computer system comprised in the at least one first control system.

24. A method according to any of claims 1-10 or any of claims 11-23, further comprising, subsequent to step (j) of claims 1 and 11, respectively, transporting a plurality of items from the first installation to a second item processing installation, the second item
5 processing installation being adapted to further process the items.
25. A method according to any of claims 1-10 or any of claims 11-24, wherein the unique address identification code represents one or more of the following particulars of the destination location: city or local district, street name, street number, country.
10
26. A method according to claim 25, wherein the unique address identification code further represents the name of the addressee.
27. A method according to any of claims 25 or 26 as dependent on claim 11, further
15 comprising, subsequent to step (c) of claim 11, comparing the destination code and/or the unique address identification code to second address data previously stored in a first database comprised in or connected to the one or more first control systems in order to verify the destination location of an item.
- 20 28. A method according to any of claims 1-10 or claim 27, wherein the one or more first control systems comprised in the first installation are connected to an exterior database in which names and address of a large number of persons is stored, the first control system or the exterior database comprising or being connected to a database comprising non-modified second address data and modified second address data,
25 the method further comprising:
- automatically associating the unique address identification code corresponding to the modified second address data to an item in case the first address data or the destination code correspond to the non-modified second address data.
- 30 29. A method according to any of claims 1-10 or any of claims 11-28, wherein the postal items comprise envelopes.
30. A method according to any of claims 1-10 or any of claims 11-28, wherein the postal items comprise parcels and/or packets.

31. A method according to claim 22 or 23, the method further comprising, prior to step (g) of claim 1 or claim 11, bypassing all or some of steps (b)-(j) in case the weight and/or the dimensions of a postal item exceeds previously determined limits.

5 32. A method according to any of claims 1-10 or any of claims 11-31, further comprising, subsequent to step (j), transporting at least some of the items to a second item processing installation for further processing of the items.

33. A method according to claim 32, wherein the second item processing installation
10 comprises a second control system for controlling processing of items, the second control system being connected to the one or more first control systems, the method further comprising, subsequent to step (e) or (f) of claim 1 or subsequent to step (c) of claim 11:
(I) passing destination information, such as the unique address identification code, together with item identification data from the first control system to the second control
15 system, and
(II) providing each item with an optically readable item identification code.

34. A method according to claim 33, further comprising capturing the optically readable item identification code at the second item processing installation and deriving therefrom
20 the corresponding item identification data and destination information and sorting items according to the respective destination information.

35. A method according to any of claims 1-10 or any of claims 11-34, further comprising passing a table comprising item identification information and destination information
25 associated to a plurality of items from the one or more first controls systems to the second control system or from the second control system to a third control system comprised in a third item processing installation optionally provided.

36. A method according to claim 35, comprising, at the second or the third control system,
30 processing the destination information associated to each item, so as to derive the address of the destination location from the destination information.

37. A method according to claim 35 or 36, further comprising printing the table and/or a list of addresses of destination locations of items and delivering the items associated to

the item identification information listed or stored in the table at the respective destination locations of the items.

38. A method according to claim 35, further comprising automatically delivering the items
5 associated to the item identification information listed or stored in the table at the respective destination locations of the items.

39. A method according to any of claims 33-38, wherein a plurality of second item processing installations are provided, step (I) of claim 33 comprising passing the
10 destination information together with item identification data from the first control system to the respective second control systems in accordance with the destination information, whereby destination information and item identification information associated to an item being transported to a certain second item processing installation is being passed to that second item processing installation.

15 40. A method according to any of claims 1-10 or any of claims 11-39, wherein the step of capturing the first image of a printed or written address block provided on items and/or the step of scanning the optically readable identification code is carried out by means of an optical character recognition system.

20 41. A method according to claim 40, wherein the optical character recognition system comprises an auto focus system, the step of capturing the first image and/or the step of scanning the identification code comprising auto focusing on a relevant part of the item in question.

25 42. A method according to any of claims 1-10 or any of claims 11-41, further comprising the step of passing data to an item tracking database connected to or comprised in the one or more first control systems, in the second and/or in the third control system when an item has been delivered at a destination location or at other events during the steps of
30 processing an item.

43. A method according to any of claims 1-10 or any of claims 11-42, further comprising passing volume and/or weight data from the one or more first control systems to an account database connected to or comprised in an account computer system.

35

44. A method according to claim 43, wherein the account computer system is connected to or comprised in the item tracking database, the method comprising automatically invoicing carriage costs by:

- computing the carriage costs in dependency of the weight and/or volume of an item and optionally in dependency of one or more further factors,
- printing an invoice and sending it to a debtor and/or electronically forwarding the invoice to the debtor and/or automatically drawing the debit from an account of the debtor.

45. A method according to any of claims 42-44, wherein a plurality of item tracking databases and/or a plurality of account computer systems are provided, the steps of passing data of claims 42-44 comprising passing the data to a selected one of the plurality of item tracking databases and/or to a selected one of the plurality of account computer systems, respectively.

46. A method according to any of claims 42-45, further comprising:

- generating a sortation sequence or sortation pattern in the one or more first control systems or in the second control system, the sortation sequence or sortation pattern comprising information as to the sequence of further sortation of a plurality of items.

47. A method according to claim 46, wherein the sortation sequence or sortation pattern comprises information as to the sequence of further sortation of a plurality of items at the second item processing installation or at other locations, the sortation sequence or pattern being generated in the one or more first control systems, the method comprising passing the sortation sequence or sortation pattern from the one or more first control systems to the second control system or to another control system.

48. A method according to any of claims 11-47, further comprising generating sortation data or sortation information for a plurality of items at the departure location prior to step

(b) of claim 11 and passing such data or information to the one or more first control systems directly or through a sortation data generating computer system.

49. A method according to claim 48, further comprising passing information from the sortation generating computer system to the account computer system or to the tracking

database or passing information from the account computer system or from the tracking database to the sortation generating computer system.

50. A method according to claim 49, wherein a plurality of sortation data generating
5 computer systems are provided, the method comprising passing sortation data from the plurality of sortation data generating computer systems to the one or more first computer systems.

51. A method according to any of claims 42-50, wherein one or more of the item tracking
10 database(s), the account computer system(s), the sortation data generating computer systems and/or of one or more other systems or database are placed at a location other than the first and the second item processing installation.

52. A system for processing postal items, each item being sent from a departure location
15 to a destination location, the system comprising:

- an item receiving part for receiving items at first item processing installation, the first installation being adapted to collect and process items from a plurality of departure locations and comprising one or more first control systems for controlling the processing
20 of items,

- a first system for capturing a first address signal from address identification means optionally provided on the items,

25 - means for processing the first address signal to derive first address data,

- means for passing the first address data to a first computer system comprised in the at least one first control system,

30 - processor means for processing the first address data of an item in order to determine whether or not it is sufficient in order to automatically sort and distribute the item in question,

- means for transporting the item in question to further manual or automatic processing of
35 the item,

- processor means for comparing the first address data to second address data previously stored in a first database comprised in or connected to the first computer system,
and
- 5 - means for associating a unique address identification code to the item in question,
- means for associating an error code to the item in question,
- 10 - means for conveying the items along a system for displaying the first address signal to a human by means of a monitor, the human passing a second address signal to the first computer system by manual entering of information, and
- processor means for processing the first or the second address signal to
15 derive third address data,
- means for ensuring by automatic or manual means that the third address data is sufficient in order to automatically sort and distribute the item in question,
- 20 - storage means for storing the third address data as the first address data,
- a sorting conveyor adapted to sort items, the sorting conveyor comprising a plurality of discharge stations and means for unloading items being conveyed along the sorting conveyor, discharging of items being controlled by the first computer system,
- 25 - a plurality of discharge stations arranged along the sorting conveyor, the discharge station being automatically selected by the first computer system according to the unique address identification code or according to the error code.
- 30 53. A system according to claim 52, further comprising means for carrying out some or all of the method steps of any of claims 1-10.
- 54. A system for processing postal items, each item being sent from a departure location to a destination location via a mail centre, the departure location being a location of a type

different from a mail centre and being located at a remote location from the mail centre, the system comprising:

- means for providing an item with an optically readable identification code in a standard
5 format at the departure location, the identification code corresponding to a unique address identification code stored at a first storage means comprised in a computer system comprised in or connected to a first control system comprised in a first item processing installation,
- 10 - delivering means for delivering items to an item receiving part of the first installation, the first installation being adapted to collect and process items from a plurality of departure locations and comprising one or more first control systems for controlling the processing of items,
- 15 - means for passing the identification code together with a destination code of the item from the departure location to at least one of the one or more first control systems, the destination code identifying the address of the destination location of the item,
- second storage means for storing the destination code in the first control system and
20 means for processing the destination code so as to associate the destination code to the corresponding unique address identification code,
- scanning means for scanning the optically readable identification code at the item processing installation by means of a code scanning device adapted to pass the
25 identification code to at least one of the one or more first control systems,
- processing means for processing the identification code so as to associate the corresponding unique address identification code to the item,
- 30 - means for conveying each item along a sorting conveyor adapted to sort items, the sorting conveyor comprising a plurality of discharge stations and means for unloading items being conveyed along the sorting conveyor, discharging of items being controlled by a first computer system comprised in the one or more first control systems,

- means for discharging each item at a discharge station, the discharge station being automatically selected by the first computer system according to the identification code associated to the item in question.

5 55. A system according to any of claims 52-54, further comprising means for carrying out some or all of the method steps of any of claims 11-51.

56. A method for processing postal items at a first item processing installation comprising a control system, the method comprising:

10

(a) identifying each item by means of first item identification means operationally connected to the control system and passing a first identification signal from the identification means to the control system,

15 (b) identifying each item by means of second item identification means operationally connected to the control system and passing a second identification signal from the identification means to the control system, the second item identification means being of a type different from the type of the first item identification means,

20 (c) determining and processing address data provided on or comprised in each item by means of an address identification means and passing an address signal from the address identification means to the control system,

(e) associating the first and second identification signals to the address signal of each

25 item,

step (e) being performed in the control system.

57. A method according to claim 56, wherein step (a) and/or step (b) comprises the step
30 of scanning a bar code provided on all or some of the items, the first and/or second item identification means, respectively, comprising one or more bar code scanners.

58. A method according to claim 56 or 57, wherein step (a) and/or step (b) comprises identifying all or some of the items by means of a radio frequency tag optionally
35 comprised in or on each item.

59. A method according to any of claims 56-58, wherein step (a) and (c) occur simultaneously.

5 60. A method according to any of claims 56-59, wherein first item identification means is comprised in the address identification means.

61. A method according to any of claims 56-60, wherein step (b) and (c) occur simultaneously.

10

62. A method according to any of claims 56-61, wherein second item identification means is comprised in the address identification means.

15 63. A method according to any of claims 56-62, wherein steps (a), (b) and (c) occur simultaneously.

64. A method according to any of claims 56-63, wherein steps (a), (b) and (c) occur while the items are being conveyed along a conveyor system.

20 65. A method according to claim 64, wherein the conveyor system comprises a plurality of conveyor portions moving along the conveyor system, the conveyor system further comprising conveyor portion locating means for determining the respective locations of the conveyor portions in the conveyor system, the method further comprising the steps of:

25 (I) associating a selected conveyor portion to each item,

(II) in case step (a), (b) and (c) do not occur at the same location along the conveyor system:

30 (II.1) carrying out a first one of step (a), (b) and (c) at a first location along the conveyor system,

(II.2) carrying out a second one of step (a), (b) and (c) at a second location along the conveyor system,

35

(II.3) carrying out a third one of step (a), (b) and (c) at a third location along the conveyor system,

(II.4) tracking each item by means of the conveyor portion locating means while
5 carrying out steps (II.1)-(II.3),

so as to, in the control system, associate data representing the first and second identification signals and the address signals of each item to each other.

10 66. A method according to claim 65, wherein the first location is the second location.

67. A method according to claim 65, wherein the first location is the third location.

68. A method according to claim 65, wherein the second location is the third location.
15

69. A system for automatically processing a plurality of postal items comprising packets and/or parcels, the system comprising the following features:

- a postal item check-in system,
- 20 - a postal item singulating system,
- a system according to claim 52 and/or a system according to claim 54.

25 70. A method for sorting parcels, the method comprising:

(a) conveying the parcels along a sorting conveyor comprising a plurality of discharge stations and a control system,

30 (b) discharging each parcel at a discharge station selected by the control system according to one or more destination particulars of the parcel,

(c) collecting a plurality of parcels at a discharge station and rearranging the parcels at the discharge station according to their destination particular(s), so as to change, in
35 accordance with a predetermined sequence for a subsequent delivery of the parcels at

their respective destinations, the order in which the parcels are arranged at the discharge station.

71. A method according to claim 70, wherein all or some of the discharge stations each
5 comprise a chute.

72. A method according to claim 71, wherein all or some of the chutes each comprise a
pater noster system, the method comprising the step of rearranging and circulating a
plurality of parcels during the process of sorting a plurality of parcels at the sorting
10 conveyor.

73. A method of processing postal items, comprising the steps of:
(i) providing each item with an identification code,
(ii) passing the identification code by means of radio frequency transmission to a control
15 system operatively connected to a radio frequency receiver for receiving the identification
code,
(iii) deriving destination address data stored in a database of the control system from the
identification code,
(iv) processing the postal items in accordance with the destination address data derived
20 from the database of the control system.

74. A method according to claim 73, wherein step (iii) comprises sorting items by means
of a sorter conveyor.

25 75. A system for processing postal items, comprising:
(i) means for passing an identification code identifying each item to a control system
operatively connected to a radio frequency receiver for receiving the identification code,
the control system being adapted to derive destination address data stored in a database
of the control system from the identification code,
30 (ii) means for processing the postal items in accordance with the destination address
data.